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UNITED STATES
PRELIMINARY VIEWS ON WRC-03

WRC-03 Agenda Item 1.16: to consider allocations on a worldwide basis for feeder links in bands around 1.4 GHz to the non-GSO MSS with service links operating below 1 GHz, taking into account the results of ITU-R studies conducted in response to Resolution 127 (Rev.WRC-2000), provided that due recognition is given to the passive services, taking into account No. S5.340

ISSUE: Additional allocations to the non-GSO MSS for feederlinks in the bands 1390-1393 MHz and 1429-1432 MHz at WRC-03.

BACKGROUND: A total of l.525 MHz (space-to-Earth) and l.9 MHz (Earth-to-space) are presently allocated on a worldwide primary basis to the MSS below l GHz and 300 kHz (Earth-to-space) is allocated for land MSS on a worldwide primary basis. These allocations are for both the MSS service links and feeder links. Since these allocations at WARC-92 and WRC-95, the Radiocommunication Bureau has identified 25 non-GSO MSS networks at frequencies below l GHz, at some state of coordination under **S9.11A**/Resolution **46 (Rev.WRC-97)**, and nine non-GSO MSS networks at the advance publication stage only. However, it appears that many of the proposed networks cannot be implemented in the existing allocations because there is not enough spectrum readily available in the allocated spectrum. Additional feederlink spectrum outside of the currently allocated bands would provide dedicated feederlink spectrum and free up existing allocations for scarce service link spectrum. WRC-97 approved Resolution 127 to study sharing techniques for NVNG MSS < 1 GHz feederlinks (Earth-to-space) in the 1390-1400 MHz band, and space-to-Earth feederlinks in the 1427-1432 MHz band. As a result of the favorable initial studies in these bands, WRC-00 approved Agenda Item 1.16 to consider allocations at 1390-1393 MHz for uplink feederlinks, and 1429-1432 MHz for feeder downlinks for the non-GSO MSS service with the understanding that Resolution 127 studies must be completed including testing of near-flight hardware to validate the theoretical studies approved earlier.

Sharing studies completed in the ITU-R under Resolution 127 include a) out-of-band sharing with the radioastronomy service by meeting Recommendation RA.769-1 levels of –255 dB ($W/m^2/Hz$) for the 1400-1427 MHz band, b) out-of-band sharing with EESS by meeting Recommendation SA.1029-1 requirements of –171 dBW/27MHz for in-band pfd levels, c) in-band sharing with the EESS by meeting the time avoidance criteria, d) sharing with fixed and mobile services on the basis of not exceeding the pfd levels established for sharing in the adjacent bands of –146 $dBW/m^2/4kHz$ (since no level had been established for the 1429-1432 MHz band), and e) sharing with the radiolocation service by equipping the non-GSO MSS satellites with adequate filtering. In addition to the above, uplink sharing with the fixed and mobile services can be accommodated by geographical sharing of the small number of remotely located feederlink stations.

PRELIMINARY VIEW: The U.S. supports allocations in the 1390-1393 MHz and 1429-1432 MHz at WRC-03 for the non-GSO MSS pending completion of studies under Resolution 127. The

proposed allocations are in bands close to the passive services band at 1400-1427 MHz that must be protected from out-of-band and spurious emissions. Studies have shown that interference to radio astronomy and the other passive services can be avoided using various techniques including low-power transmitter levels, choice of modulation, symbol shaping, output filtering and band limiting filters, the use of which can minimize the band separation necessary to meet the recommended interference threshold levels for protection of these services. The U.S. expects that the hardware testing to be completed this year will confirm the theoretical results already approved by the ITU-R for the protection of the passive services. Other sharing results will be similarly definitive, and will allow allocation of these bands at WRC-03. (04/18/01)